

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF NEW MEXICO

ZANGARA DODGE, INC., et al.

Plaintiffs.

vs.

No. CIV-07-1305 MCA/LFG

RON CURRY, in his official capacity as  
Secretary of the New Mexico Department  
of Environment, et al.,

Defendants.

**DECLARATION OF JAMES M. LYONS**

I, James M. Lyons, declare as follows:

1. I have submitted two declarations filed in this case: one in support of plaintiffs' motion for summary judgment on their federal clean air act preemption claim (Count IV of the Second Amended Complaint) and one in support of plaintiffs' motion for summary judgment on their federal fuel economy law preemption claims (Counts I and II of the Second Amended Complaint). I have also read defendants' evidentiary objections to the declarations filed by Mr. Douglas I. Greenhaus and me in support of the federal fuel economy law preemption claims.

2. As stated in my two previous declarations (*see* Doc Nos. 42, Ex. A and 80-2), I am an engineer with training and expertise in the study of automotive regulation, motor vehicle emissions and fuel economy. As set forth in my resume, attached to my first Declaration (Doc No. 42, Ex. A), my work experience during the approximately twenty-three years of my career has been as an employee of the California Air Resources Board (CARB), the California Agency responsible for promulgating and implementing state air pollution regulations, and with Sierra Research, a private consulting firm in the field of air quality and air pollution control. *See* [www.sierraresearch.com](http://www.sierraresearch.com).

3. During my time with CARB, I participated in, and was in some cases had supervisory responsibility for, the development of emission control regulations. My responsibilities in developing new regulations included assessing the feasibility of compliance with the proposed regulations, and the associated emission impacts and

compliance costs. Furthermore, it was also my responsibility to determine if the benefits of the proposed regulations great enough to justify their cost -- or in other words to determine the cost-effectiveness of the proposed regulations.

4. During my time with Sierra Research, I have been involved with a large number of projects that have required me to perform analyses of proposed regulations similar to those I performed while at CARB. Regulations affecting on-road motor vehicles that I have analyzed included the AB 1493 or "Pavley" regulations. I also have primary responsibility for the publication of *CVS News*, a monthly newsletter that includes analyses of all CARB regulatory proposals that are related to the mobile source emission control program. This work requires me not only to keep abreast of new CARB regulatory proposals, but also to understand how affected parties are expected to comply and the impacts that compliance will have. In addition to the work I have performed in analyzing CARB regulatory programs I have also analyzed a number of federal regulatory programs including those related to new vehicle fuel economy.

5. I authored or co-authored published scholarly papers in the area of vehicle regulation and compliance, including the following: (i) "Evaluation of California Greenhouse Gas Standards and Federal Energy Independence and Security Act -- Part 1: Impacts on New Vehicle Fuel Economy," SAE Paper No. 2008-01-1852, Society of Automotive Engineers, 2008; (ii) "The Benefits of Reducing Fuel Consumption and Greenhouse Gas Emissions from Light-Duty Vehicles," SAE Paper No. 2008-01-0684, Society of Automotive Engineers, 2008; (iii) "Cost-Effectiveness of Mobile Source Emission Controls from Accelerated Scrappage to Zero Emission Vehicles," Paper No. 94-TP53.05, presented at the 87th Annual Meeting of the Air and Waste Management Association, Cincinnati, OH, June 1994; (iv) "Cost-Effectiveness of the California Low Emission Vehicle Standards," SAE Paper No. 940471, 1994; and (v) "Trends in Emissions Control Technologies for 1983-1987 Model-Year California-Certified Light-Duty Vehicles," SAE Paper No. 872164, 1987.

6. I have also testified in these areas in Court and agency proceedings, including the following: (i) *Union Oil Co. of Cal. v. Atlantic Richfield Co.*, No. CV-95-2379-KMW (C.D.Cal. 1998); (ii) *Caterpillar Inc. vs. California Air Resources Board* (Superior Court of California, County of Sacramento, Case Number 05AS01133); (iii) CARB Agenda Item 07-1-5: Public Hearing to Consider Amendments to the Airborne

Toxic Control Measure for Perchloroethylene Dry Cleaning Operations; (iv) CARB Agenda Item 05-8-4: Public Hearing to Consider the Adoption of a Clean On-Road School Bus Regulation for School Buses Operating in the South Coast Air Quality Management District; (v) CARB Agenda Item 04-8-2: Public Hearing to Consider Proposed Regulations and Related Test Procedures to Control Greenhouse Gas Emissions from Motor Vehicles; (vi) CARB Agenda Item 00-8-3, Public Meeting for the Biennial Review of the Zero Emission Vehicle Program; (vii) CARB Agenda Item 99-10-3: Public Hearing to Consider Amendments to the California Reformulated Gasoline Regulations, Including a December 31, 2002 Prohibition of Using MTBE in Gasoline, Adoption of Phase 3 Gasoline Standards, a Phase 3 Predictive Model, and Other Changes; and CARB Agenda Item 98-3-5: Public Hearing to Consider Amendments to the Small Off-Road Engine Regulations.

7. The work I performed in preparing both of the declarations I have filed in this case is the same type of work I have been performing in analyzing motor vehicle and other types of emissions regulations throughout the course of my career. It is also consistent with the work performed by others in the field of regulatory analysis. As is standard practice in this field, I have endeavored to clearly explain what I have done, what assumptions I have made, as well as the results of my analyses.

8. Although it is never possible to know with absolute certainty exactly how each party affected by a particular regulation may respond to that regulation, the field of regulatory analysis is based upon the use of the best available data and assumptions made to a reasonable degree of certainty. In keeping with these standards, the opinions I set forth in both of my declarations are based upon a reasonable degree of certainty.

9. If exact knowledge of how affected parties would react to a regulation were required to preclude regulatory analyses from being characterized as "speculative," regulatory agencies such as CARB and the U.S. Environmental Protection Agency would be unable promulgate regulations because they could not complete the required analyses of regulatory impacts.

10. Each of the opinions I set forth in my two prior declarations have been made to a reasonable certainty. My opinions with respect to the relative stringency of the greenhouse gas standards and federal fuel economy standards and the differences in the structure of those standards, are simple arithmetic comparisons of numerical values that I



have located in public reports by federal and state agencies. (*See* Doc. No. 80-2 ¶¶ 16-17, 25-31.) I have determined, in keeping with the best practices in this field, that the facts, data, and background upon which I rely (and which come from federal and state statutes, agency regulations and proposed regulations, agency reports, and scholarly works) are reliable for purposes of informing the opinions I set forth.

11. In papers filed by defendants, Mr. Michael D. Jackson and Mr. K.G. Duleep speculate that the sale of hydrogen fuel cell and battery electric vehicles could be viable options for manufacturers in complying with the GHG regulations. To put those statements in context, a recent study performed by an expert panel commissioned by CARB<sup>1</sup> found that because of high costs and other factors, neither battery electric vehicles or hydrogen fuel cell vehicles will be offered for sale in significant volumes in the foreseeable future. Similarly, a recent study performed by the National Research Council<sup>2</sup> found that even with an investment of around \$200 billion dollars by government and private industry that in 2020 fuel cell vehicles would account for less than 1% of the U.S. vehicle fleet.

12. In paragraph 30 of his Declaration, Mr. Jackson discusses the value of air conditioning credits available under the GHG regulations and suggests that they have nothing do with reductions in vehicular CO<sub>2</sub> emissions. Mr. Jackson claims that air conditioning credits would provide up to a 7.5 percent reduction in some baseline level for greenhouse gas emissions control that he has assumed. Mr. Jackson then notes that his 7.5 percent estimate for air conditioning is larger than NHTSA's published estimate that only about 3 percent of motor vehicle greenhouse gases are not carbon dioxide, and suggests that the 3 percent estimate must be inaccurate. To put Mr. Jackson's statement in context, the air conditioning credits available under the GHG regulations consist of two components: 1) direct emissions of refrigerants from system leaks and 2) reductions in tailpipe CO<sub>2</sub> emissions resulting from improved air conditioning system efficiency which thereby reduce engine power demands and hence fuel consumption.<sup>3</sup> Thus, part of the 7.5 percent credit assigned by the regulations for advanced air conditioning

<sup>1</sup> Kalhammer, et. al., "Status and Prospects for Zero Emissions Vehicle Technology, Report of the ARB Independent Expert Panel 2007" Prepared for State of California Air Resources Board Sacramento, California, April 2007.

<sup>2</sup> "Transitions to Alternative Transportation Technologies – A Focus on Hydrogen", National Research Council, 2008.

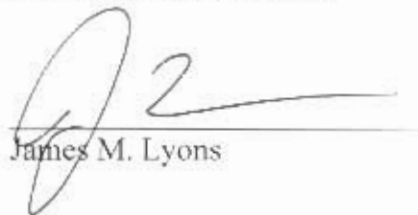
<sup>3</sup> Section 6.1.B of CARBAB 1493 ISOR, August 6, 2004 and Sections 1961.1(a)(1)(B)1.b and 1.c.

systems are based on reductions in tailpipe CO<sub>2</sub> emissions, not other types of greenhouse gas emissions. Mr. Jackson does not indicate what percentage of greenhouse gas emissions from motor vehicles he believes to consist of tailpipe CO<sub>2</sub> emissions, and what percentage consist of other greenhouse gas emissions for any given vehicle or group of vehicles. There is no necessary mathematical inconsistency between the CARB regulation assigning 7.5 percent credit for the use of advanced air conditioning systems, and NHTSA's estimate that 97 percent of greenhouse gas emissions from motor vehicles are carbon dioxide.

13. I am aware that Mr. Jackson and Mr. Duleep, have assessed the costs and effects associated with the application of vehicle fuel economy improvement technologies, for example in the California AB 2076 proceeding<sup>4</sup> and in work performed for the National Academies of Science<sup>5</sup>, respectively. I am also aware that in these studies both assumed that there would be additional costs associated with technology deployment and those costs that would have to be borne in varying degrees by manufacturers or dealers, and/or passed on to retail customers.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury that the foregoing is true and correct, to the best of my knowledge and belief.

Executed this 17th day of October 2008 at Folsom, California.

  
James M. Lyons

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<sup>4</sup> "Reducing California's Petroleum Dependence" California Energy Commission Report, P600-03-005F, August 2003, Including Appendices A-D.

<sup>5</sup> "Technologies to Improve Light-Duty Vehicle Fuel Economy", Draft Report, prepared by EEA, September, 2007.

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I HEREBY CERTIFY that on the 17th day of October, 2008, I filed the foregoing electronically through the CM/ECF system, which caused the following counsel to be served by electronic means, as more fully reflected on the Notice of Electronic Filing:

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